

resistive element on said wafer adjacent a boundary of said reaction chamber depositing a Lamb-wave transducer on said wafer.

Re-write claim 94 to read:

94. (Amended) The device of claim 93, wherein said amplification reaction is a polymerase chain reaction (PCR), and wherein said amplification chamber contains: a preselected polynucleotide, a polymerase, nucleoside triphosphates, a first primer hybridizable with a single strand of said [sample] polynucleotide, and second primer hybridizable with a nucleic acid comprising a sequence complementary to said [polynucleotide] single strand, wherein said first and second primers define the termini of the polynucleotide product of the polymerization reaction; and

wherein said means for thermally cycling comprises means for thermally cycling the contents of said chamber between a temperature controlled to dehybridize double stranded polynucleotide thereby to produce single stranded polynucleotide, to permit annealing of said primers to complementary regions of single stranded polynucleotide, and to permit synthesis of polynucleotide between said primers, thereby to amplify said preselected polynucleotide.

Rewrite claim 103 to read:

103. (Amended) The device of claim 102, wherein said amplification reaction is a polymerase chain reaction (PCR), and wherein said amplification chamber contains: a preselected polynucleotide, a polymerase, nucleoside triphosphates, a first

primer hybridizable with a single strand of said [sample] polynucleotide, and a second primer hybridizable with a nucleic acid comprising a sequence complementary to said [polynucleotide] single strand, wherein said first and second primers define the termini of the polynucleotide product of the polymerization reaction; and

wherein said means for thermally cycling comprises means for thermally cycling the contents of said chamber between a temperature controlled to dehybridize double stranded polynucleotide thereby to produce single stranded polynucleotide, to permit annealing of said primers to complementary regions of single stranded polynucleotide, and to permit synthesis of polynucleotide between said primers, thereby to amplify said preselected polynucleotide.

Add new claim 106:

--106. A device for amplifying a preselected polynucleotide in a sample, the device comprising:

a solid substrate microfabricated to define:

a sample inlet port;

a flow system for micro- to pico-liter volumes comprising:

a sample flow channel extending from said inlet port; and